

REMARKS/ARGUMENTS

Favorable reconsideration of this application is respectfully requested.

The specification is amended by the present response to correct minor informalities and to provide a new Abstract believed to be in more proper format under United States practice. The claims are also amended to make minor clarifications.

Claims 1-20 are pending in this application. Claims 7, 8, 17, and 18 were rejected under 35 U.S.C. § 112, second paragraph. Claims 1, 2, 11, and 12 were rejected under 35 U.S.C. § 103(a) as unpatentable over U.S. patent 5,943,141 to Tamura in view of U.S. patent 5,442,464 to Ito. Claims 3, 4, 13, and 14 were rejected under 35 U.S.C. § 103(a) as unpatentable over Tamura in view of Ito and U.S. patent 5,659,335 to Barron et al. (herein “Barron”). Claims 9, 10, 19, and 20 were rejected under 35 U.S.C. § 103(a) as unpatentable over Tamura in view of Ito and U.S. patent 5,900,948 to Shigeeda et al. (herein “Shigeeda”). Claims 5, 6, 15, and 16 were objected to as dependent upon a rejected base claim, but were noted as allowable if rewritten in independent form to include all of the limitations of their base claims and any intervening claims. Claims 7, 8, 17, and 18 were noted as allowable if rewritten to overcome the rejections under 35 U.S.C. § 112, second paragraph, and to include all of the limitations of their base claims and any intervening claims.

Initially, applicants gratefully acknowledge the early indication of the allowable subject matter in claims 5-8 and 15-18.

Addressing now the rejection of claims 7, 8, 17, and 18 under 35 U.S.C. § 112, second paragraph, that rejection is traversed by the present response.

The above-noted claims are amended by the present response to clarify that the microcomputer performs both the operations of the multiplying and dividing. The claim amendments are believed to address the rejection under 35 U.S.C. § 112, second paragraph.

Addressing now each of the above-noted prior art rejections, those rejections are traversed by the present response.

The outstanding rejections are based on the combination of teachings of Tamura in view of Ito rendering obvious the subject matter of each of independent claims 1, 2, 11, and 12. However, applicants respectfully submit those claims distinguish over the applied art.

Applicants first note the above-noted claims are amended to make minor clarifications that are not believed to narrow the scope of those claims.

The outstanding rejection recognizes that Tamura does not disclose the claimed “black shading correcting part” or the “correcting part”. To overcome those recognized deficiencies in Tamura the outstanding rejection cites the teachings in Ito. The outstanding rejection specifically with respect to the claimed “correcting part” references element 204 in Figure 2 of Ito and the text at column 19, Equation 4 and the ensuing disclosure. However, applicants respectfully submit such relied upon disclosures in Ito do not correspond to the claimed features of the “correcting part”.

Claim 1 recites:

a correction part correcting the black correction reference data by a ratio between an output level of said empty transfer part obtained through said A-D converter when the black correction reference part is detected and an output level of said empty transfer part obtained through A-D converter when the image is read.

Independent claims 2, 11, and 12 require similar limitations. Such features are believed to clearly distinguish over the applied art.

As noted in the present specification for example at page 21, line 20 et. seq., a digital black level value D0_t1 is an output level of the empty transfer part obtained through the A-D converter when the black correction data is detected, and the digital black value level D0_t2 is an output level of the empty transfer part obtained through the A-D converter when an

image is read. The claims as currently written utilize such a ratio D0_t2/D0_t1 as a correction value. Such features are believed to clearly distinguish over the applied art as the noted teachings in Ito are not believed to teach or suggest utilizing such a ratio.

The outstanding rejection as noted above cites the teachings in Ito at column 19, Equation 4 and the ensuing disclosure. However, applicants note Equation 4 in Ito is a ratio of the illuminance-ratio in a tube-temperature T to the illuminance-ratio in the tube-temperature T_o. That is, the ratio noted in Ito is directed to a ratio between two different tube temperatures. The noted teachings in Ito are directed to ensuring that differences in tube temperature do not adversely effect the noted calculation.

Such teachings in Ito are unrelated to the claimed features.

That is, the illuminance-ratio at two different tube temperatures as in Ito is completely unrelated to the claimed “ratio between an output level of said empty transfer part obtained through said A-D converter when the black correction reference data is detected and an output level of said empty transfer part obtained through said A-D converter when the image is read”. The claimed ratio does not consider or even address different tube-temperatures. Instead, the claimed ratio is directed to an output level of the empty transfer part at two different times, namely when the black correction reference data is detected and when an image is read.

Ito does not disclose or suggest any such features. Ito is not at all directed to determining an output of an empty part at two different times of when a black correction reference is detected and when an image is read, nor is Ito directed to utilizing a ratio of such outputs in a black correction operation.

Thus, applicants respectfully submit the teachings in Ito do not overcome the recognized deficiencies in Tamura in the outstanding rejection.

Therefore, applicants respectfully submit each of independent claims 1, 2, 11, and 12, and the claims dependent therefrom, patentably distinguish over the applied combination of teachings of Tamura in view of Ito.

Moreover, the further rejections based on Barron and Shigeeda are also believed to be overcome as the teachings in Barron and Shigeeda are not believed to overcome the above-noted deficiencies of Tamura in view of Ito.

Therefore, applicants respectfully submit each of independent claims 1, 2, 11, and 12, and the claims dependent therefrom, distinguish over the applied art.

As no other issues are pending in this application, it is respectfully submitted that the present application is now in condition for allowance, and it is hereby respectfully requested that this case be passed to issue.

Respectfully submitted,

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